Amendments to the Drawings:

The attached replacement drawing sheets makes changes to Figs. 1-3 and replaces the corresponding original sheets with Figs. 1-3.

Attachment: Replacement Sheets

REMARKS

Claims 19, 22, 23, 26-29, 33 and 60-62 are now pending. By this Amendment, claims 20, 21 and 30 are canceled; claims 19, 22, 23, 27 and 29 are amended; and claim 62 is added. In addition, the specification, abstract and Figures 1-3 are replaced. Support for the amendments to the specification incorporated into the substitute specification can be found in the original specification at, for example, page 7, first paragraph; page 8, lines 12-13; page 29, lines 20-21 and 26-28; page 31, lines 7-8; page 32, lines 1-9; and page 33, lines 22-27, which refer to GM2 activator protein rather than to a precursor thereof.

I. Information Disclosure Statement

Information Disclosure Statements (IDSs) were filed in the above-identified patent application on June 4, 2002 and June 11, 2002. The Office Action acknowledges receipt of an IDS but indicates that the references have not been considered because not all the requirements for submitting an IDS have been met, particularly referring to MPEP §609, Part III. However, it is believed that the requirements for submitting an IDS have been complied with.

In particular, it is believed that copies of the references were provided. If the Examiner did not receive copies of any of the references cited in the IDSs, the Examiner is requested to point out which references so that additional copies can be provided.

In addition, with regard to the references that are in a language other than English, it is believed that concise explanations of at least most of these references were included. In particular, as indicated in the IDS filed June 4, 2002, references 1-8 were cited in a counterpart foreign application. An English-language version of the Search Report listing these references was attached to the IDS filed June 4, 2002. An additional copy of the Search Report is attached hereto. This English-language version of the Search Report meets the requirement for a concise explanation of these references.

With regard to references 9-89 of the IDS filed June 4, 2002, only reference 86 is in a language other than English. A concise explanation of the relevance of reference 86 is attached hereto.

With regard to the references cited in with the IDS filed June 11, 2002, it is respectfully submitted that both of these references are in English and therefore no concise explanation of their relevance is required.

All of the references cited in the IDSs filed June 4, 2002 and June 11, 2002 were provided and a concise explanation of each of the non-English language references cited therein was either included with the IDSs or is provided herewith. Thus, the Examiner is requested to acknowledge consideration of all of the references in the IDSs filed June 4, 2002 and June 11, 2002.

II. Restriction Requirement

Claim 33 is withdrawn from consideration. However, the unity of invention examples indicate, in Example 17, the unity of invention exists between protein X and DNA sequence encoding protein X. By analogy, there is clearly unity of invention between the polypeptide of claim 19 and a nucleotide fragment encoding a polypeptide of claim 19. Therefore, it is respectfully submitted that unity of invention exists between claims 19 and 33. Thus, claim 33 should be rejoined and considered in the present application.

III. Objections

The disclosure is objected to for containing an embedded hyperlink. The hyperlink is deleted in the substitute specification filed herewith. Thus, the objection should be withdrawn.

The drawings are objected to because Figs. 1-3 do not comply with the sequence rules. In the substitute specification, the description of Figs. 1-3 have been amended to refer to the amino acid sequences of Figs. 1-3. In addition, Figs. 1-3 are amended herein in order to

delete the nucleotide sequences therein. Thus, the Sequence Listing includes all of the sequences in amended Figs. 1-3. Thus, the objection should be withdrawn.

IV. Rejections

Claims 19-23 and 26-28 are rejected under 35 U.S.C. §112, second paragraph. Applicants respectfully traverse the rejection.

With regard to the rejection set forth in part (a) and (b), claims 19, 22, 23 and 27 have been amended to delete the "corresponds to" language. The claims now clearly recite that the peptides contain the recited sequence or at least one of the recited sequences.

With regard to the rejection set forth in part (c), it is respectfully submitted that this language is defined in the original specification at page 6, line 14, to page 7, line 33 (page 6, line 18, to page 7, line 27, of the substitute specification). In particular, in this portion of the specification, a definition of each of the recited families of proteins is set forth.

With regard to the rejection set forth in part (d), the ligand has been further defined as being selected from the group consisting of an antibody, a substrate with enzymatic activity, an enzyme for which said peptide is a cofactor and a receptor. Based on this recitation, it is respectfully submitted that the recitation of a "ligand specific for said polypeptide" is clear.

The claims clearly recite the present invention. Therefore, the rejection under 35 U.S.C. §112, second paragraph, should be reconsidered and withdrawn.

Claims 19-23, 26-30, 60 and 61 are rejected under 35 U.S.C. §112, first paragraph, for allegedly lacking enablement. Applicants respectfully traverse the rejection.

Claim 1 is directed to a polypeptide comprising at least one fragment of SEQ ID NO: 9, said fragments comprising at least one of SEQ ID NO: 68 or SEQ ID NO: 72. In rejecting the claims, the Examiner refers to language such as 70% identity and families of proteins, none of which are in claim 19 or claims 22, 23, 26, 28, 29, 60 and 61, which depend

from claim 19. Therefore, it is respectfully submitted that the Office Action provides no basis for the rejection of these claims.

With regard to claim 27, this claim is directed to a further polypeptide that is used in the method of claim 26 together with the polypeptide as defined in claim 19. Although claim 27 recites a broad number of sequences, it is respectfully submitted that one of ordinary skill in the art would be able to make and use these sequences without undue experimentation, particularly with the polypeptide of claim 19, which is clearly enabled by the present specification.

The specification clearly enables the present claims. Therefore, the rejection under 35 U.S.C. §112, first paragraph, should be reconsidered and withdrawn.

Claims 19, 22 and 23 are rejected under 35 U.S.C. §102 over Xie et al. In addition, claims 19, 22 and 23 are rejected under 35 U.S.C. §102 over Nagarajan et al. Furthermore, claims 26, 28-30, 60 and 61 are rejected under 35 U.S.C. §103 over Xie or Nagarajan in view of Li et al. Applicants respectfully traverse the rejections.

Claim 19 has been amended to recite that the fragment of SEQ ID NO: 9 comprises at least one of SEQ ID NO: 68 or SEQ ID NO: 72, as previously recited in canceled claim 21, which was not rejected over the prior art. It is respectfully submitted that none of the cited references teach or suggest a polypeptide comprising at least one of SEQ ID NO: 68 and/or SEQ ID NO: 72. Therefore, the rejections over these references should be reconsidered and withdrawn.

V. New Claim 62

Claim 62 has been added to further define the invention. Claim 62 depends from claim 26 and is allowable for at least the reasons discussed above.

VI. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 19, 22, 23, 26-29, 33 and 60-62 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

William P. Berridge
Registration No. 30,024

Melanie L. McCollum
Registration No. 40,085

WPB:MLM/jam

Attachments:
- Substitute Specification
- Marked-Up Copy
- Abstract
- Replacements Sheets
- Concise Explanation of Reference 86
- English-Language Search Report (June 4, 2002)

Date: June 21, 2005

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Telephone: (703) 836-6400

DEPOSIT ACCOUNT USE AUTHORIZATION
Please grant any extension necessary for entry;
Charge any fee due to our Deposit Account No. 15-0461

10/030,937

Concise explanation of Reference 86 of the 6/4/02 IDS

This document presents the general features of messenger RNA (mRNA) functions.
In the first paragraphs, a brief description of mRNA characteristics is made: methylated 5'cap, 3' polyadenylation, metastability and stabilisation by proteins, etc...
Follows a description of splicing processes. mRNA are primarily transcribed directly from DNA with exons and introns. Then, specific sequence tags flanking introns allow the RNA to "hairpin" the intronic parts. These hairpins are subsequently eliminated by a very complex enzymatic cascade involving proteins and small nuclear RNAs (snRNA) that altogether form a catalytic complex in the cell nucleus, called spliceosome. After these intronic hairpins are cut, sequences of contiguous are reassembled by ligation, thus providing a "mature" mRNA (without introns) now ready to cross the nucleus membrane into the endoplasmic reticulum for translation into protein at the ribosomal level.
The last paragraphs provide details on special "spliceosome-like" structures that have also been identified in certain cell types and explain the notion of alternative splicing. Indeed, introns may be excised together with certain exons in a variable manner, apparently controlled by the intracellular concentration of a regulatory protein that differs amongst cell types and conditions. This "alternative splicing" provides "alternatives" to the full-length mature mRNA (with all exons) and can thus generate mRNAs encoding different proteins from the same parental "primary mRNA". This phenomenon is used in eukaryotes but can also be found in viruses, with alternative splicing sites located within viral genes open reading frames or determining the expression of several unrelated protein by producing codon initiation in two of three successive reading frames within the viral RNA sequence.
Therefore, a single gene may encode several proteins with or without common domains (from common exons) through this mechanism of mRNA alternative splicing.

Certified in honest agreement with the original text, by the author of the above-written summary, Hervé Perron.

INTERNATIONAL SEARCH REPORT

International Application No.
PCT/FR00/02057

A. CLASSIFICATION OF SUBJECT MATTER

CIB 7 G01N33/68 G01N33/564 C07K14/47 A61K38/17

According to International Patent Classification (IPC) or to both National Classification and IPC

B. FIELDS SEARCHED

Minimum Documentation Searched (classification system followed by classification symbols)
CIB 7 G01N C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
BIOSIS, WPI Data, PAJ, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category°	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No.
X	US 5 876 954 A (DOBRANSKY TOMAS ET AL) 2 March 1999 (1999-03-02) column 28, claim 17 & EP 0 667 354 A 16 August 1995 (1995-08-16) claim 5 & WO 95 21859 A cited in the demand	1-21,40, 51-62
X	WO 97 33466 A (BIO MERIEUX; RIEGER FRANCOIS (FR); PERRON HERVE (FR); BENJELLOUN N) 18 September 1997 (1997-09-18) cited in the demand Claims	1-21,40 51-62
X	JP 08 308582 A (KAO CORP) 26 November 1996 (1996-11-26) entire document	23

☒ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

°Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier document but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention.
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
"&" document member of the same patent family

Date of the Actual Completion of the International Search
30 January 2001

Date of Mailing of the International Search Report
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III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)

Category°	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No.
A	RIEGER F ET AL: "UN FACTEUR GLIOTOXIQUE ET LA SCLEROSE EN PLAQUES GLIOTOXICITY IN MULTIPLE SCLEROSIS" COMPTES RENDUS DES SEANCES DE L'ACADEMIE DES SCIENCES. SERIE III: SCIENCES DE LA VIE, NL, ELSEVIER, AMSTERDAM, vol. 319, no. 4, 1 April 1996 (1996-04-01), pages 343-350, XP000602023 ISSN: 0764-4469 abstract	1-21,40, 51-62
A	KISILEVSKY R ET AL.: "ARRESTING AMYLOIDOSIS IN VIVO USING SMALL-MOLECULE ANIONIC SULPHONATES OR SULPHATES: IMPLICATIONS FOR ALZHEIMER'S DISEASE" NATURE MEDICINE, US, NATURE PUBLISHING, CO, vol. 1, no. 2, 1 February 1995 (1995-02-01), pages 143-148, XP000611547 ISSN: 1078-8956 entire document	1-21,40, 51-62
A	WO 90 07712 A (BISSENDORF PEPTIDE GMBH) 12 July 1990 (1990-07-12) page 2	1-21,40, 51-62
A	WO 98 11439 A (BIO MERIEUX; PERRON HERVE (FR); MALCUS VOCANSON CARINE (FR); MANDR) 19 March 1998 (1998-03-19) entire document	1-21,40, 51-62
A	CA 2 214 843 A (HSC RESEARCH AND DEVELOPMENT LIMITED PARTNERSHIP, CA) 30 April 1999 (1999-04-30) entire document	1-63

See notes on accompanying sheet